

CLAIMS

1. A medical device comprising:
a stent, the stent having a reduced state and an expanded state and being comprised of a plurality of interconnected struts, at least one strut at least partially coated with a substance, at least one strut having at least one bumper, the at least one bumper constructed and arranged to reduce or prevent contact between the substance and an adjacent component of the medical device when the stent is in the reduced state.
2. The medical device of claim 1 wherein the at least one strut at least partially coated with a substance and the at least one strut having at least one bumper are the same strut.
3. The medical device of claim 1 wherein the plurality of interconnected struts comprise at least one strut pair, the at least one strut pair having at least one bumper thereon.
4. The medical device of claim 3 wherein at least one pair of adjacent struts have bumpers facing one another.
5. The medical device of claim 4 wherein the bumpers facing one another are constructed and arranged to removably engage each other when the stent is in the reduced state.
6. The medical device of claim 4 wherein the at least one pair of adjacent struts have a plurality of bumpers facing one another.
7. The medical device of claim 6 wherein the plurality of bumpers facing one another are constructed and arranged to removably engage an opposing strut of the at least one pair of adjacent struts.
8. The medical device of claim 1 wherein the at least one strut having at least one bumper has a strut length, the at least one bumper having a bumper length, the bumper length being less than about half of the strut length.
9. The medical device of claim 1 wherein the at least one strut having at least one bumper has a strut length, the at least one bumper having a bumper length, the bumper length being at least about half of the strut length.
10. The medical device of claim 1 wherein the at least one bumper has a bumper height, and a bumper length, the bumper height varying along the bumper length.

11. The medical device of claim 1 wherein the at least one strut having at least one bumper comprises a plurality of surfaces, the at least one bumper protruding from at least one of the plurality of surfaces.
12. The medical device of claim 11 wherein the plurality of surfaces comprise an
5 inside facing surface, an outside facing surface, and at least one surface facing the plane of the stent.
13. The medical device of claim 12 wherein the at least one bumper protrudes from the inside facing surface.
14. The medical device of claim 12 wherein the at least one bumper protrudes from
10 the outside facing surface.
15. The medical device of claim 12 wherein the at least one bumper protrudes from the at least one surface facing the plane of the stent.
16. The medical device of claim 11 wherein the at least one bumper protrudes from each of the plurality of surfaces.
- 15 17. The medical device of claim 16 wherein the at least one bumper is disposed about at least a portion of the at least one strut having at least one bumper.
18. The medical device of claim 1 wherein the substance is selected from at least one member of the group consisting of a drug, genetic material, cells, a non-genetic therapeutic agent, a polymer matrix having a therapeutic component, and any
20 combination thereof.
19. The medical device of claim 1 wherein the substance is selected from at least one member of the group consisting of SIBS (styrene isobutylene styrene); polycarboxylic acid; cellulosic polymer, such as cellulose acetate and cellulose nitrate; gelatin, polyvinylpyrrolidone; cross-linked polyvinylpyrrolidone; polyanhydride such as maleic
25 anhydride polymer; polyamide; polyvinyl alcohol; copolymers of vinyl monomers such as EVA; polyvinyl ether; polyvinyl aromatic; polyethylene oxide; glycosaminoglycan; polysaccharide; polyesters such as polyethylene terephthalate; polyacrylamide; polyether; polyether sulfone; polycarbonate; polyalkylenes including polypropylene, polyethylene and high molecular weight polyethylene; halogenated polyalkylenes such as
30 polytetrafluoroethylene; polyurethane; polyorthoester; protein; polypeptide; silicone; siloxane polymer; polylactic acid; polyglycolic acid; polycaprolactone;

polyhydroxybutyrate valerate and blends and copolymers thereof; polyurethane dispersions; fibrin; collagen and derivatives thereof; polysaccharides such as celluloses, starches, dextrans, alginates and derivatives; hyaluronic acid; squalene emulsion; polyacrylic acid and any combinations thereof.

5 20. A method of producing a stent comprising:

providing a stent having a reduced state and an expanded state and being comprised of a plurality of interconnected struts, at least one of the struts having a strut body and at least one bumper, the at least one bumper constructed and arranged to reduce or prevent contact between the strut body and an adjacent component of stent when the

10 stent is in the reduced state;

placing a mask about at least a portion of the stent, thereby providing at least one exposed portion and at least one masked portion;

placing a substance on the at least one exposed portion;

removing the mask.

15 21. The method of claim 20 wherein the at least one masked portion includes the at least one bumper or a portion of a strut adjacent thereto.